

TABLE D4-9
SUMMARY OF DEFAULT ASSESSMENT ENDPOINTS AND PRIMARY INDICATOR SPECIES FOR EACH ALASKAN ECOREGION

Default Assessment Endpoints	Ecoregions								Typical Tier I Assessment Method	Primary (bold) and Other Exposure Media
	Aleutian Islands	Arctic Slope	Interior	Northwest	Southcentral	Southeast	Southwest	Yukon-Kuskokwim Delta		
Primary Producers (Trophic Level 0)										
The potential for significant adverse effects on terrestrial soil plant species abundance, diversity, and primary production	All plants that obtain nutrients primarily from soil ^a	All plants that obtain nutrients primarily from soil ^a	All plants that obtain nutrients primarily from soil ^a	All plants that obtain nutrients primarily from soil ^a	All plants that obtain nutrients primarily from soil ^a	All plants that obtain nutrients primarily from soil ^a	All plants that obtain nutrients primarily from soil ^a	All plants that obtain nutrients primarily from soil ^a	Compare Media Concentrations with Lowest Available Phytotoxicity Benchmarks for Any Plant Species	Surface Soil
The potential for significant adverse effects on terrestrial air plant species abundance, diversity, and primary production	All plants that obtain nutrients primarily from the air ^a	All plants that obtain nutrients primarily from the air ^a	All plants that obtain nutrients primarily from the air ^a	All plants that obtain nutrients primarily from the air ^a	All plants that obtain nutrients primarily from the air ^a	All plants that obtain nutrients primarily from the air ^a	All plants that obtain nutrients primarily from the air ^a	All plants that obtain nutrients primarily from the air ^a	Not Evaluated under Normal Circumstances	Air
The potential for significant adverse effects on marine plant species abundance, diversity, and primary production	All plants that obtain nutrients primarily from marine water ^a	All plants that obtain nutrients primarily from marine water ^a	NA	All plants that obtain nutrients primarily from marine water ^a	All plants that obtain nutrients primarily from marine water ^a	All plants that obtain nutrients primarily from marine water ^a	All plants that obtain nutrients primarily from marine water ^a	All plants that obtain nutrients primarily from marine water ^a	Compare Media Concentrations with Available Adjusted Water Quality Criteria (Preference for Marine and Chronic Values)	Marine Water
The potential for significant adverse effects on marine semi-aquatic plant species abundance, diversity, and primary production	All plants that obtain nutrients primarily from marine sediment ^a	All plants that obtain nutrients primarily from marine sediment ^a	NA	All plants that obtain nutrients primarily from marine sediment ^a	All plants that obtain nutrients primarily from marine sediment ^a	All plants that obtain nutrients primarily from marine sediment ^a	All plants that obtain nutrients primarily from marine sediment ^a	All plants that obtain nutrients primarily from marine sediment ^a	Compare Media Concentrations with Available Adjusted Sediment Quality Criteria (Preference for Marine and Chronic Values); site-specific TOC adjustment when appropriate.	Marine Sediment Marine Water
The potential for significant adverse effects on freshwater plant species abundance, diversity, and primary production	All plants that obtain nutrients primarily from fresh water ^a	All plants that obtain nutrients primarily from fresh water ^a	All plants that obtain nutrients primarily from fresh water ^a	All plants that obtain nutrients primarily from fresh water ^a	All plants that obtain nutrients primarily from fresh water ^a	All plants that obtain nutrients primarily from fresh water ^a	All plants that obtain nutrients primarily from fresh water ^a	All plants that obtain nutrients primarily from fresh water ^a	Compare Media Concentrations with Available Adjusted Water Quality Criteria (Preference for Freshwater and Chronic Values)	Fresh Water
The potential for significant adverse effects on freshwater semi-aquatic plant species abundance, diversity, and primary production	All plants that obtain nutrients primarily from freshwater sediment ^a	All plants that obtain nutrients primarily from freshwater sediment ^a	All plants that obtain nutrients primarily from freshwater sediment ^a	All plants that obtain nutrients primarily from freshwater sediment ^a	All plants that obtain nutrients primarily from freshwater sediment ^a	All plants that obtain nutrients primarily from freshwater sediment ^a	All plants that obtain nutrients primarily from freshwater sediment ^a	All plants that obtain nutrients primarily from freshwater sediment ^a	Compare Media Concentrations with Available Adjusted Sediment Quality Criteria (Preference for Freshwater and Chronic Values); site-specific TOC adjustment when appropriate.	Freshwater Sediment Fresh Water
Herbivores and Detrivores (Primary Consumers - Trophic Levels 1 and 2)										
The potential for significant adverse effects on marine aquatic invertebrate community abundance and diversity	All marine aquatic invertebrates ^a	All marine aquatic invertebrates ^a	NA	All marine aquatic invertebrates ^a	All marine aquatic invertebrates ^a	All marine aquatic invertebrates ^a	All marine aquatic invertebrates ^a	All marine aquatic invertebrates ^a	Compare Media Concentrations with Available Adjusted Water Quality Criteria (Preference for Marine and Chronic Values)	Marine Water
The potential for significant adverse effects on marine benthic invertebrate community abundance and diversity	All marine benthic invertebrates ^a	All marine benthic invertebrates ^a	NA	All marine benthic invertebrates ^a	All marine benthic invertebrates ^a	All marine benthic invertebrates ^a	All marine benthic invertebrates ^a	All marine benthic invertebrates ^a	Compare Media Concentrations with Available Adjusted Sediment Quality Criteria (Preference for Marine and Chronic Values); site-specific TOC adjustment when appropriate.	Marine Sediment Marine Water
The potential for significant adverse effects on freshwater aquatic invertebrate community abundance and diversity	All freshwater aquatic invertebrates ^a	All freshwater aquatic invertebrates ^a	All freshwater aquatic invertebrates ^a	All freshwater aquatic invertebrates ^a	All freshwater aquatic invertebrates ^a	All freshwater aquatic invertebrates ^a	All freshwater aquatic invertebrates ^a	All freshwater aquatic invertebrates ^a	Compare Media Concentrations with Available Adjusted Water Quality Criteria (Preference for Freshwater and Chronic Values)	Fresh Water
The potential for significant adverse effects on freshwater benthic invertebrate community abundance and diversity	All freshwater benthic invertebrates ^a	All freshwater benthic invertebrates ^a	All freshwater benthic invertebrates ^a	All freshwater benthic invertebrates ^a	All freshwater benthic invertebrates ^a	All freshwater benthic invertebrates ^a	All freshwater benthic invertebrates ^a	All freshwater benthic invertebrates ^a	Compare Media Concentrations with Available Adjusted Sediment Quality Criteria (Preference for Freshwater and Chronic Values); site-specific TOC adjustment when appropriate.	Freshwater Sediment Fresh Water
The potential for significant adverse effects on soil invertebrate community abundance and diversity	All terrestrial invertebrates ^a	All terrestrial invertebrates ^a	All terrestrial invertebrates ^a	All terrestrial invertebrates ^a	All terrestrial invertebrates ^a	All terrestrial invertebrates ^a	All terrestrial invertebrates ^a	All terrestrial invertebrates ^a	Compare Media Concentrations with Lowest Available Toxicity Benchmarks for Earthworms or Other Soil Invertebrate Species	Surface Soil

TABLE D4-9 (cont.)
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Default Assessment Endpoints	Ecoregions								Typical Tier I Assessment Method	Primary (bold) and Other Exposure Media
	Aleutian Islands	Arctic Slope	Interior	Northwest	Southcentral	Southeast	Southwest	Yukon-Kuskokwim Delta		
The potential for significant adverse effects on marine fish detritivore abundance and diversity	All marine fish ^a	All marine fish ^a	NA	All marine fish ^a	All marine fish ^a	All marine fish ^a	All marine fish ^a	All marine fish ^a	Compare Media Concentrations with Available Adjusted Water Quality Criteria (Preference for Marine and Chronic Values)	Marine Water
The potential for significant adverse effects on freshwater fish detritivore abundance and diversity	All freshwater fish ^a	All freshwater fish ^a	All freshwater fish ^a	All freshwater fish ^a	All freshwater fish ^a	All freshwater fish ^a	All freshwater fish ^a	All freshwater fish ^a	Compare Media Concentrations with Available Adjusted Water Quality Criteria (Preference for Freshwater and Chronic Values)	Fresh Water
The potential for significant adverse effects on freshwater semi-aquatic avian herbivore abundance and diversity	green-winged teal	northern pintail	mallard	green-winged teal	mallard	mallard	mallard	mallard	Model dose from ingestion of water, sediment, and sediment-associated plants; compare with appropriate toxicity reference value.	Freshwater Sediment Fresh Water
The potential for significant adverse effects on marine semi-aquatic avian herbivore abundance and diversity	NA	NA	NA	brant	brant	NA	NA	brant	Model dose from ingestion of marine sediment and marine-sediment-associated plants and compare with appropriate toxicity reference value.	Marine Sediment Marine Water
The potential for significant adverse effects on terrestrial avian herbivore abundance and diversity	willow ptarmigan	common redpoll	dark-eyed junco	dark-eyed junco	dark-eyed junco	dark-eyed junco	dark-eyed junco	dark-eyed junco	Model dose associated with soil ingestion, surface water ingestion, and ingestion of soil-associated plants.	Surface Soil Fresh Water
The potential for significant adverse effects on freshwater semi-aquatic mammalian herbivore abundance and diversity	NA	Moose	northern bog lemming	muskrat	northern bog lemming	northern bog lemming	muskrat	muskrat	Model dose associated with sediment ingestion, surface water ingestion, and ingestion of sediment-associated plants and compare with applicable toxicity reference value.	Freshwater Sediment Fresh Water
The potential for significant adverse effects on terrestrial mammalian herbivore abundance and diversity	Arctic ground squirrel	brown lemming	tundra vole	tundra vole	tundra vole	long-tailed vole	tundra vole	tundra vole	Model dose associated with soil ingestion, surface water ingestion, and ingestion of soil-associated plants and compare with applicable toxicity reference value.	Surface Soil Fresh Water
Secondary Consumers (Trophic Level 3)										
The potential for significant adverse effects on marine avian invertevore abundance and diversity	least auklet	least auklet	NA	least auklet	parakeet auklet	black oystercatcher	least auklet	least auklet	Model dose associated with sediment ingestion and ingestion of marine aquatic invertebrates and compare with applicable toxicity reference value.	Marine Water
The potential for significant adverse effects on freshwater avian invertevore abundance and diversity	American dipper	ruddy turnstone	American dipper	American dipper	American dipper	American dipper	American dipper	American dipper	Model dose associated with sediment ingestion and ingestion of freshwater aquatic invertebrates and compare with applicable toxicity reference value.	Fresh Water
The potential for significant adverse effects on marine semi-aquatic avian invertevore abundance and diversity	least sandpiper	lesser golden plover	NA	black-bellied plover	semipalmated plover	semipalmated plover	rock sandpiper	rock sandpiper	Model dose associated with sediment ingestion and ingestion of marine benthic invertebrates and compare with applicable toxicity reference value.	Marine Sediment
The potential for significant adverse effects on freshwater semi-aquatic avian invertevore abundance and diversity	common snipe	common snipe	common snipe	common snipe	common snipe	common snipe	common snipe	common snipe	Model dose associated with sediment ingestion and ingestion of freshwater benthic invertebrates and compare with applicable toxicity reference value.	Freshwater Sediment

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	Aleutian Islands	Arctic Slope	Interior	Northwest	Southcentral	Southeast	Southwest	Yukon-Kuskokwim Delta		
The potential for significant adverse effects on terrestrial avian invertevore abundance and diversity	Lapland longspur	Lapland longspur	American robin	Lapland longspur	American robin	American robin	American robin	Lapland longspur	Model dose associated with soil ingestion and ingestion of soil invertebrates and compare with applicable toxicity reference value.	Surface Soil
The potential for significant adverse effects on freshwater fish invertevore abundance and diversity	NA	All freshwater fish ^a	All freshwater fish ^a	All freshwater fish ^a	All freshwater fish ^a	All freshwater fish ^a	All freshwater fish ^a	All freshwater fish ^a	Compare media concentrations with available adjusted water quality criteria (preference for freshwater and chronic values)	Fresh Water
The potential for significant adverse effects on marine fish invertevore abundance and diversity	NA	NA	NA	NA	All marine fish ^a	All marine fish ^a	All marine fish ^a	NA	Compare media concentrations with available adjusted water quality criteria (preference for marine and chronic values)	Marine Water
All terrestrial invertebrates ^a	All terrestrial invertebrates ^a	All terrestrial invertebrates ^a	All terrestrial invertebrates ^a	All terrestrial invertebrates ^a	All terrestrial invertebrates ^a	All terrestrial invertebrates ^a	All terrestrial invertebrates ^a	All terrestrial invertebrates ^a	Compare Media Concentrations with Lowest Available Toxicity Benchmarks for Earthworms or Other Soil Invertebrate Species	Surface Soil
The potential for significant adverse effects on freshwater amphibian invertevore abundance and diversity	NA	wood frog	wood frog	wood frog	wood frog	spotted frog	wood frog	wood frog	Compare Media Concentrations with Available Adjusted Water Quality Criteria or Model dose associated with ingestion of freshwater aquatic invertebrates and sediment and compare with applicable toxicity reference value.	Fresh Water Sediment
Terrestrial amphibian invertevore abundance and physical health	NA	NA	NA	NA	western toad	western toad	NA	NA	Model dose associated with soil ingestion and ingestion of soil invertebrates and compare with applicable toxicity reference value.	Surface Soil
The potential for significant adverse effects on marine mammalian invertevore abundance and diversity	sea otter	bearded seal ^f	NA	bearded seal ^f	sea otter	sea otter	sea otter	sea otter	Model dose associated with sediment ingestion and ingestion of marine aquatic invertebrates and compare with applicable toxicity reference value.	Marine Water Sediment
The potential for significant adverse effects on terrestrial mammalian invertevore abundance and diversity	shrews	tundra shrew	masked shrew	tundra shrew	masked shrew	masked shrew	masked shrew	tundra shrew	Model dose associated with soil ingestion and ingestion of soil invertebrates and compare with applicable toxicity reference value.	Surface Soil Fresh Water
Tertiary Consumers (Trophic Level 4)										
The potential for significant adverse effects on marine avian piscivore abundance and diversity	pigeon guillemot	pigeon guillemot	NA	pigeon guillemot	pigeon guillemot	pigeon guillemot	pigeon guillemot	pigeon guillemot	Model dose associated with fish ingestion and compare with applicable toxicity reference value.	Marine Water
The potential for significant adverse effects on freshwater avian piscivore abundance and diversity	Belted kingfisher	Arctic loon	belted kingfisher	belted kingfisher	belted kingfisher	belted kingfisher	belted kingfisher	belted kingfisher	Model dose associated with fresh water and fish ingestion and compare with applicable toxicity reference value.	Fresh Water
The potential for significant adverse effects on terrestrial avian carnivore abundance and diversity	northern shrike	northern shrike	northern shrike	northern shrike	northern shrike	northern shrike	northern shrike	northern shrike	Model dose associated with soil ingestion and ingestion of prey and compare with applicable toxicity reference value.	Surface Soil
The potential for significant adverse effects on terrestrial mammalian carnivore abundance and diversity	NA	least weasel	least weasel	least weasel	least weasel	shorttail weasel	least weasel	least weasel	Model dose associated with soil ingestion and ingestion of prey and compare with applicable toxicity reference value.	Surface Soil
The potential for significant adverse effects on freshwater semi-aquatic mammalian carnivore abundance and diversity	NA	NA	mink	mink	mink	mink	mink	mink	Model dose associated with fresh water, freshwater sediment, and fish ingestion and compare with applicable toxicity reference value.	Fresh Water Sediment Surface Soil

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	Aleutian Islands	Arctic Slope	Interior	Northwest	Southcentral	Southeast	Southwest	Yukon-Kuskokwim Delta		
The potential for significant adverse effects on freshwater mammalian piscivore abundance and diversity	NA	river otter	river otter	river otter	river otter	river otter	river otter	river otter	Model dose associated with fresh water and fish ingestion and compare with applicable toxicity reference value.	Fresh Water
The potential for significant adverse effects on marine mammalian piscivore abundance and diversity	harbor seal	ringed seal	NA	northern fur seal	spotted seal	harbor seal	spotted seal	ringed seal	Model dose associated with fish ingestion and compare with applicable toxicity reference value.	Marine Water
The potential for significant adverse effects on marine mammalian carnivore abundance and diversity	Arctic fox	polar bear	NA	polar bear	sperm whale	sperm whale	sperm whale	sperm whale	Model dose associated with marine bird or marine mammal ingestion and compare with applicable toxicity reference value.	Marine Water
The potential for significant adverse effects on freshwater fish piscivore abundance and diversity	All freshwater fish ^a	All freshwater fish ^a	All freshwater fish ^a	All freshwater fish ^a	All freshwater fish ^a	All freshwater fish ^a	All freshwater fish ^a	All freshwater fish ^a	Compare Media Concentrations with Available Adjusted Water Quality Criteria (Preference for Freshwater and Chronic Values)	Fresh Water
The potential for significant adverse effects on marine fish piscivore abundance and diversity	All marine fish ^a	All marine fish ^a	NA	All marine fish ^a	All marine fish ^a	All marine fish ^a	All marine fish ^a	All marine fish ^a	Compare Media Concentrations with Available Adjusted Water Quality Criteria (Preference for Marine and Chronic Values)	Marine Water

Notes:
a Toxicity data currently available for use in Tier I ecological risk assessments (e.g., ambient water quality criteria, sediment quality benchmarks, phytotoxicity data, and soil invertebrate toxicity benchmarks) do not allow consideration of individual species within each of these functional groups.
NA = Not applicable